Name: Date: Tools: one 9 pcs or 16 pcs Set	305 - Secret Exponent 1□3 **MATHS / NUMBERS**	LOGIFACES METHODOLOGY Erasmus+ STUDENT Logifaces 2019-1-HU01-KA201-0612722019-1

DESCRIPTION

1. Students form pairs within groups of 4. Each pair takes a Logifaces piece, and thinks of a secret number.

LEVEL 1: The secret number is a natural number up to 5.

LEVEL 2: The secret number is a one digit natural number or integer.

LEVEL 3: The secret number can be any real number. See 'Prior knowledge' and 'Recommendation' for the description of Levels.

2. Each pair takes a Logifaces piece. The teacher says: "Check the three heights of your Logifaces piece, raise these numbers to the power of your secret number, and multiply the three results" (e.g. if your secret number is 5, and the heights are 1, 2 and 2, then calculate

$1^5 \times 2^5 \times 2^5 = 4^5 = 1024$)

3. Each pair gives their Logifaces piece and their final result (eg. 1024) to the other pair in their group.

4. Each pair guesses the secret number of the other pair.

5. Steps 1-4 can be repeated 1-3 times. Meanwhile, teachers can give hints and input if needed, they can also suggest students to think of more complicated or special secret numbers.

6. Whole class discussion: discussing, summarising and formalising strategies, discussing different types of secret numbers (e.g. negative) and special secret numbers (e.g. 0 and 1)

SOLUTION(S)